

WHAT IS CLAIMED IS:

Sub A1
1. A mouse input device for a computer system, the mouse capable of being moved across a working surface to move a displayed object on a computer display, the mouse comprising:

an upper casing providing a contact point for contacting a user's palm when a user manipulates the mouse;

a bottom surface designed to face the working surface;

a thumb pinching area located on a side of the mouse proximate the bottom surface such that a user's thumb rests in the thumb pinching area when the user's palm is in contact with the contact point; and

at least one side button located above the thumb pinching area in a direction away from the bottom surface.

2. The mouse of claim 1 wherein two side buttons are located above the pinching area.

Sub A2
3. The mouse of claim 1 wherein the at least one side button is shaped to substantially conform to a space between a user's thumb and a user's index finger when the user's thumb is positioned on the thumb pinching area and the user's palm is in contact with the contact point.

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comprises
a button sh
space between
finger.~~

5. avoids the us

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at least one side button positioned so that
a gap between the user's thumb and the
user's index finger is reduced when

the user's thumb is moved from the gripping position to actuate the side button while the user's index finger remains fixed on the primary button.

8. The mouse of claim 7 wherein the at least one side button comprises two side buttons.

9. The mouse of claim 8 wherein the two side buttons together form a shaped button assembly that substantially conforms to the shape of a gap between the user's thumb and index finger when the user's thumb is located on the thumb gripping position and the user's index finger is positioned on the primary button.

10. The mouse of claim 7 wherein the user's thumb registers with a working surface over which the mouse moves when the user's thumb is located at the thumb gripping position.

11. The mouse of claim 10 wherein a space exists between the user's thumb and the at least one side button when the user's thumb is located at the thumb gripping position.

12. The mouse of claim 8 wherein the two side buttons comprise a forward button and a rear button, a majority of the forward button being closer to the front of the mouse than a majority of the rear

button.

13. The mouse of claim 7 wherein the thumb gripping position comprises a surface that is substantially level with a surface of the at least one side button along a boundary between the gripping position and the at least one side button.

14. A mouse for a computer system, the mouse capable of conveying signals to the computer indicative of movement of the mouse across a working surface, the mouse comprising:

an outer casing having a contact point for contacting a user's palm when the user manipulates the mouse;

a secondary button capable of being actuated by a user's middle finger when the user's palm is in contact with the contact point;

a support slope being separate from the secondary button, each surface point of the support slope having a normal that at least partially points away from the working surface, the support slope positioned such that a user's ring finger contacts a first portion of the support slope when the user's palm is in contact with the contact point and the user's middle finger is in contact with the secondary button.

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15. The mouse of claim 14 wherein the user's little finger contacts a second portion of the support slope when the user's palm is in contact with the contact point and the user's middle finger is in contact with the secondary button.

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16. The mouse of claim 15 wherein a space exists between the user's ring finger and the secondary button when the user's ring finger is positioned on the support slope such that the secondary button freely moves when actuated by the user's middle finger.

17. The mouse of claim 15 wherein a portion of the user's little finger contacts both the second portion of the support slope and the working surface.

18. A mouse for a computer system the mouse comprising:

a ring finger contact area comprising at least one surface point having a normal that at least partially points away from a working surface over which the mouse is moved, a distal phalanx of the user's ring finger being positioned at the ring finger contact area when the user grips the mouse; and

a little finger contact area comprising at

least one surface point having a normal that at least partially points away from the working surface, a distal phalanx of the user's little finger being positioned at the little finger contact area when the user grips the mouse.

19. The mouse of claim 18 wherein the ring finger contact area is convex.

20. The mouse of claim 18 wherein the ring finger contact area is concave.

21. The mouse of claim 18 wherein the little finger contact area is concave.

22. The mouse of claim 18 wherein the little finger contact area is convex.

23. The mouse of claim 18 further comprising a secondary button, the ring finger contact area being separate from the secondary button.

24. The mouse of claim 23 wherein the ring finger contact area is positioned such that a space separates the distal phalanx of the user's ring finger from any portion of the secondary button.

25.

A mouse for a computer system comprising:

a bottom surface designed to face a working surface over which the mouse is moved;
an upper housing providing a support area to support a portion of a user's palm;
a wheel, accessible by at least one of the user's digits when the user's palm is in contact with the upper housing and comprising at least fifty ribs along its outer surface.

26. The mouse of claim 25 wherein the wheel comprises one hundred twenty ribs.

27. The mouse of claim 26 wherein the ribs are evenly spaced across the wheel surface.

28. The mouse of claim 25 wherein each rib is .02 inches high.

29. The mouse of claim 25 wherein each rib has a cross-sectional shape that is the combination of a first quarter-circle contiguous with a half-circle contiguous with a second quarter-circle.

30. The mouse of claim 29 wherein the first quarter-circle is based on a circle having a center above a point half-way between two ribs at a distance of .16 inch.

31. The mouse of claim 30 wherein the half-

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